

**COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF TELECOMMUNICATIONS AND ENERGY**

Investigation by the Department of Telecommunications
and Energy on its own motion to investigate the D.T.E. 01-100
appropriateness of the use of Risk Management Techniques
to Mitigate Natural Gas Price Volatility.

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EXECUTIVE SUMMARY

DNL Risk Management believes that risk management programs, risk management tools and appropriate hedging techniques can provide significant benefits to retail gas customers. Additionally, retail access and the demand input it provides, is an important contribution to the development of competitive markets. It is essential that the impact of demand be represented in the wholesale markets. One of the largest concerns of the deregulation process is that we maintain adequate gas and power supplies in the future. A key factor in the success of the deregulation process is that price discovery (i.e. forward price curves) exists. Forward price curves must reflect the input of future demand in order to provide incentives to the development of future gas exploration & development and power plant development. To the extent that pure retail access is not available the use of risk management tools by the LDCs will help achieve this goal.

INTRODUCTION

I would like to thank the department for the opportunity to comment on this Notice of Inquire regarding risk management techniques. I am a risk management consultant in the energy field with primary activity in the Power and Natural Gas industry. I come to you with over 25 years experience in practicing risk management from many perspectives. I have traded foreign currencies and energy products including crude oil and natural gas. I have worked on the trading and hedging desks of commercial banks, investment banks and major corporations. I have traded from the perspective of both speculation and hedging. While managing the hedging desks at corporations I learned the importance of reducing price volatility. In the early part of my career the only hedging instrument available was the swap. Later as

options started to trade I learned to incorporate these instruments into the basket of tools that could be used to implement effective hedging programs. In the early days of natural gas deregulation I managed the natural gas trading desk of an investment bank. I advised wholesale customers in the use of risk management and its tools. It is with this practical experience of managing risk and developing hedging strategies that I am presenting this paper.

Not being completely familiar with the Massachusetts regulatory structure, I respectfully request that should any of my suggestions be out of step with current regulatory thought, the department will indulge me. That is to say I am presenting this concept as “food for thought” and as being such it may not completely fly in a regulated world. It is the spirit of the concept presented that is important not every detail being proposed.

DISCUSSION

With the proper market structure, not only can the short-term volatility of prices be reduced, but also the effect on long-term volatility due to improved long-term price signals. This in turn will stimulate new investment in resources as prices reflect increases in long run demand. If the LDC is allowed to use risk management techniques to hedge part of their medium and long-term needs their impact will be felt in the marketplace. This impact will be to shift demand from the spot market to the forward or long-term market and will be reflected by a rise in the forward segment of the price curve. In concept what will be happening is a shift in what is currently short-term or spot demand to a point further out in time. This will have the affect of reflecting a truer picture of where the demand for gas lies. In subsequent time periods as these forward purchases mature or become spot transactions(become current) they will have the impact

of reducing “spot” demand. As the LDC will no longer need to purchase as much gas in the spot market having already purchased this gas in an earlier period.

The allowance of the LDC to enter into risk management transactions in this way will give a dual benefit of reducing volatility to its customers as well as providing a more accurate price signal in the marketplace. As the questions in the NOI suggest, some formal guidelines and measuring criteria must be developed to ensure proper governance of these transactions. What follows may be considered a possible Strawman proposal as to achieve the goal of both reducing volatility to the consumer while at the same time provide a more realistic view of the term structure of demand.

Just as a corporation spreads out its debt load over short, medium and long-term maturities gas purchases may also be viewed this way. An LDC could spread its purchases over short, medium and long-term maturities. Thereby locking in a portfolio reflecting its short, medium and long-term needs. (Some level of “Base load” may be considered constant and thereby looked at as long-term in nature). This in contrast to the current practice of primarily spot transactions will by definition dampened the volatility seen in the past. The impact of long-term and medium-term contracts averaging in with the balance of spot transactions will clearly have a smoothing impact to spot volatility.

The key question to this methodology is what is the appropriate proportions the LDC should use to purchase its spot, medium and long-term gas supplies. Another question is how rigid should these proportions be in determining the appropriate mix of gas maturities as there is no one perfect set of maturities that will guarantee a minimal cost in every circumstance.

One suggestion would be for the LDC to present to the DTE(or the department could predetermine) a range of the maturities for which the LDC will execute its transactions. For example, long-term maturities could range from 30 to 50 percent of the LDCs portfolio, medium-term maturities 20 to 40 percent and spot transactions making up the balance of 10 to 50 percent. In this way the LDC has some flexibility in determining its mix of maturities. (The actual percentages could be as narrow or wide as the DTE sees fit). With the proper incentives (i.e. a share in the profitability relative to say a midpoint execution of the ranges 40,30,30 respectively) the utility could work in the best interest of the customer while at the same time not having unlimited ability to speculate in the market. This assumes a desire to give the LDC an incentive in the first place. If this is not the desire the proportions could be predetermined and the LDC would just simply execute transactions to meet these goals.

If flexibility is allowed the hopeful outcome would be that when gas prices are moving up the LDC would have a larger percentage of long-term transactions. When prices are moving down the LDC could be shifting more to short-term contracts to benefit from the falling prices. When prices are rising or seem to be at a relative high-level the portfolio of gas contracts could be adjusted to allow for a shorter average term of maturities. This is not dissimilar to creating a duration concept as applied to managing a debt portfolio. Depending on the trend in the interest rate cycle a portfolio may have a longer or shorter duration applied to its capital structure.

This gives the LDC some latitude in its execution strategy and thereby adding an element of moderate risk to its portfolio. But at the same time due to the pre-determined minimum and maximum percentages in any maturity category the LDC *can't put the entire portfolio at risk to any one maturity category*. Thereby ultimately reducing the volatility of the total portfolio of gas. This would be analogous to an investment

manager adjusting the mix of cash, bonds and equity in a retirement account depending on the age of the individual and the market conditions at any given time, etc.

QUESTIONS

1. Should Massachusetts gas utilities be allowed or required to implement a risk-management program to mitigate price volatility for gas customers?

To the extent the gas customers do not have the benefit of access to the retail market the utility should be required to implement a risk management program to mitigate price volatility. While it is understood that this will not guarantee the lowest prices it will also prevent customers who can ill afford high prices or the inconsistency of volatile prices some degree of stability and moderation in their gas prices.

2. How will risk-management by LDCs affect gas unbundling and customer choice in Massachusetts?

The use of risk management by LDCs will certainly bring them one step closer to being able to compete with other outside providers who may be providing risk management products in their service territories. If in addition to a structure similar to the strawman proposal, the utilities could offer pricing products to their customers directly, so much the better. The more flexibility the ultimate customer has to purchase according to its needs and conditions the better the solution. However, it is also understood that the smaller the customer, the more difficult it is to provide “creative “pricing.(It is difficult to offer individual households individual contracts so small in nature). It is with these customers in mind that the strawman proposal is being made.

3. Should gas utilities be limited to specific types of risk-management instruments? If so, what types?

The aforementioned strawman proposal clearly envisions the use of the forward market for both physical transactions and/or financial swaps. With minor adaptations the use of options, both puts and calls could

be incorporated into the strategies to enhance both shareholder value and the net cost provided to the customer. Should this concept be adopted it may be appropriate to start in stages. Starting with simple swaps and gradually, as all players become more comfortable with the activity, stepping up to more complex instruments.

4. Should there be a percentage volume of gas that LDCs would be allowed to hedge?

As described above a maturity structure could be predetermined with periodic review as to the LDCs successful implementation of its strategy. Additionally, if larger customers obtain access to their own risk management capabilities they should be carved out of the LDCs portfolio of hedgeable volumes. This can be done by segmenting a separate class of service to which customers could subscribe.

5. What should the core objectives of a hedging program be (e.g., least cost, price stability)?

In addition to price stability and cost moderation an objective to reflect long-term demand, would be beneficial to both the ultimate retail customer as well as the wholesale supplier of long-term gas demand. As described in the introduction it is important to the marketplace that price signals accurately reflect the long-term demand needs of natural gas. With this improved price signals producers, drillers and pipeline developers will be able to participate in the marketplace with more accurate information. And demand-side management can choose to conserve rather than consume at the lofty prices observed in the market due to improved price discovery.

6. How will the Department assess risk-management programs? What benchmarks should be used to measure a risk-management programs performance?

Risk management program assessment cannot be on a short-term after the fact second-guessing of the execution of such programs. Enough time must be given for the benefits of long-term contracts to show themselves during the inevitable rise and fall of the commodity cycle. It is important to recognize that with a well managed portfolio of contracts the damage price volatility has on the ultimate consumer is greatly diminished

7. What standard of review should the Department apply to the utilities initial risk management program?

As stated above the department should monitor the LDCs execution of its portfolio plan but needs to stay the course and not penalize the LDC as long as it stays within the maturity bands initially set.

8. What types of costs are associated with risk-management? Should LDCs be allowed to recover these costs? If so, please explain how.

As this program contemplates that the LDC would share in any of the benefits should the LDC beat the benchmark maturity structure, likewise the LDC should share in any losses relative to the benchmark. Additionally, any costs incurred in executing a strategy would also be shared. If it was decided that the LDC was not to be sharing in the benefits then all of the costs of the program should be allowed to be recovered.

9. Should an incentive mechanism be used in conjunction with a risk-management program? If so, please explain how this mechanism should be structured.

One of the challenges of any program is to get the various market participants involved. When dealing with competitive market structures one sure way to achieve this goal is to create incentives. With the assumption that the ultimate customer has a preference for low volatility in its gas costs this program

seems to provide a good incentive. For the utility to embrace this program successfully an incentive mechanism(i.e. a profit motive) would be desirable.

As described above the structure could be in the form of a pro forma portfolio of gas based on the midpoint of percentages agreed to between LDC and the DTE. Various methods for creating these benchmarks could be contemplated and some sharing of risk both positive and negative could then be established. If structured correctly the LDC could either match the benchmarks by executing its transactions according to be DTE's schedule or attempt to improve upon the benchmark and share in the financial results of that activity.

Respectfully submitted,

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